BRUHAT BENGALURU MAHANAGARA PALIKE, YELAHANKA DIVISION

Bruhat Bengaluru Mahanagara Palike

Name of Work:- Additional Development Works to Parks and Providing Children Playing and Open Gym Equipments at Lal Bhadur Shastry Layoutin Kempegowda Ward No 01.

BAR CHART

"FIRST & FINAL BILL"

Bruhat Bangalore Mahanagara Palike
Executive Engineer Yelahanka Division

Name of Work:-Additional Development Works to Parks and Providing Children Playing and Open Gym Equipments at Lal Bhadur Shastry Layoutin Kempegowda Ward No 01.

BAR CHART

Sl No	Description of Work	Unit	BOQ Quantity	EXE Quantity	Nov-21	Dec-21	Jan-22	Feb-22	Mar-22
1	KSRRB M300-53. Construction of embankment with approved material Gravel/Murrum with all lifts and leads, transporting to site, spreading, grading to required slope and compacting to meet requirement Table 300- 2 complete as per specifications.(Including cost of gravel / murrum, watering charges & compaction by vibratory roller to 95% of proctors density) MORTH Specification No. 305	Cum	398.15	398.15					
2	KSRB 2-2 : Earthwork excavation by manual means for foundation of buildings, water supply and sanitary lines and electrical conduits etc, either in pits or in trenches 1.5m and above in width, in soil not exceeding 1.5 m. in depth including dressing the bottom and sides of pits and trenches, stacking the excavated soil clear from edges of excavation with lead upto 50 m. including breaking of clods complete as per specifications. (Page No 6, I.No.2.3)	Cum	310.57	310.57					
3	KSRB 2-4 : Refilling available earth around pipe lines, cables in layers not exceeding 20cms in depth, compacting each deposited layer by ramming after watering with lead upto 50m. and lift upto 1.5 m. including cost of all labour complete as per specifications.	Cum	52.52	52.52					

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4	KSRRB M2100-10. Providing and laying Plain cement concrete of mix 1:3:6 with OPC @ 220kgs, with crushed 40mm and down size graded granite metal coarse aggregates @0.89cum and fine aggregates @ 0.46cum, in foundation mechanically mixed, placed in foundation and compacted by vibration including curing for 14 days including cost of all materials, labour, HOM curing, form works, scaffolding and centering complete as per specifications. MORTH Specification No. 2100 (P.No.222, I.No.27.18 of PW,P&IWTD S.R 2018-19)	Cum	67.60	67.60	
5	KSRB 5.4-3 : Providing and constructing granite / trap / basalt size stone masonry in superstructure with cement mortar 1:6 , edges of stones chistle dressed in courses not less than 15 cms high, bond stones at two m. apart in each course including cost of materials, labour, scaffolding, curing complete as per specifications. KBS 5.1.13 (Page No. 23, Item No. - 5.12 of PW;P&IWTD S.R 2016-17)	Cum	57.30	57.30	
6	KSRRB M2200-5.9. Providing and laying Design mix M20 with OPC @ 320kgs, with 20mm and down size graded granite metal coarse aggregates @0.69cum and fine aggregates @ 0.46cum, with superplastisiser @3lts confirming to IS9103-1999 Reaffirmed-2008 including cost of materials, labour, HOM curing, form works, scaffolding and centering complete as per specifications. - i) Upto 5 m height.(P.No.227, I.No.28.7.9 of PW, P&IWTD SR 2018-19)	Cum	15.60	15.60	

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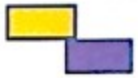
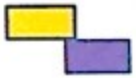
7	KSRB 4-1.6 ; Providing and laying in position plain cement concrete of mix 1:2:4 with cement @ 240kgs, with 20mm and down size graded granite metal coarse aggregates @ 0.69 cum and fine aggregtes @ 0.459cum, machine mixed, concrete laid in layers not exceeding 15 cms. thick, well compacted, in foundation, plinth and cills, ncluding cost of all materials, labour, HOM of machinery, curing complete as per specifications. Specification No. KBS 4.1, 4.2. (P.No.12, I.No. 4.6 of PW, P&IWTD SR2016-17)	Cum	23.69	23.69	
8	Providing and fixing for flooring 20mm thick gang saw water cut sadarhalli gray granite in CM 1:4 proportion, cut to required shape, pattern with paper joints, finished with cement mortar using white cement and colour pigments to match the colour of slab making through jointing with sealant, groves in joints including cost of curing - minimum width of 900mm. (P.No 112, I.No.14.61.2 of PW,P&IWTD S.R 2018-19)	Sqm	209.79	209.79	
9	KSRRB M400-19: Construction of Median and island above road level with approved material deposited from borrowpits, spread, sloped and compacted as per Clause 400.7 complete as per specifications. MORTH Specification No.407 (P.No155 of I.No.20.20 in PW,P&IWTD SR 2018-19)	Cum	90.74	90.74	

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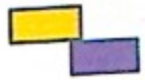
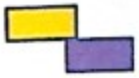
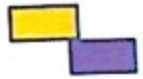
10	KSRRB M400-17: Providing, laying, spreading and compacting graded stones aggregate to Wet Mix Macadam specifications including pre mixing the material with water at OMC in mechanical mix plant carriage of mix method of tipper to site,Laying in uniform layers with paver in subbase/base course on the well prepared surface and compacting with vibratory rollers to achive the desired density complete as per MORTH specification No. 406.etc with all lead and lifts and as per directions of the Engineer-in-charge(Page No:155 Item No: 20.18, of KPWD SR Bangalore Circle 2018-19)	Cum	94.84	94.84	
11	Providing and laying/fixing cement base, precast, pre polished cement concrete, designer tiles 25mm thick for flooring conforming to IS 1237 heavy duty tiles for flooring, treads of steps and landing, laid on a bed of 12mm thick cement mortar 1:3 mis finished with flush pointing using white cement, including cost of materials, including cutting, griding the edge to half/full round wherever required, labour, curing complete as per specification. (P.No. 109, I.No. 14.62 of PWD SR 2018-19)	Sqm	260.63	260.63	
12	KSRB 14.6-1: Providing & laying heavy duty cobble stones 60mm thick interlock pavers,using cement & course sand for manufacture of blocks of approved size ,shape and colour with a minimum compressive strength of 281 kg per sqm over 50mm thick sand bed (Avg thickness) and compacting with plate vibrator having 3 tons compaction force thereby forcing part of sand underneath to come up in between joints, final compaction of paver surface joints into its final level, including cost of materials, labour and HOM of machineries complete as per specifications. Specification No. KBS (P.No 103 of I.No.14.6 in PW,P&IWTD SR 2018-19)	Sqm	192.15	192.15	

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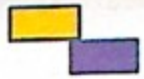
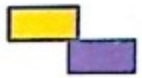
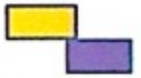
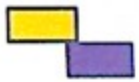
13	Providing and fixing pre cast solid cement concrete kerb stones made out of C.C. 1:2:4 with top and bottom width 114 and 165 mm respectively, 400mm high and 450mm in length finished with CM 1:3 plastering and finishing cutting, including form work, curing, including cost of all materials, labour, hire charges of machinery, loading, unloading, lead and lift, transportation etc., complete. (P.No 27 of I.No.5.30 in PW,P&IWTD SR 2018-19)	Nos	621.00	621.00	
14	KSRRB 800-1. Painting two coats after filling the surface with synthetic enamel paint in approved shades on new plastered concrete surfaces, with materials, labour complete as per specifications. MORTH Chapter 8 (Page No.180. Iitem no.24.1 of KPWD S.R Bangalore Circle 2018-2019)	Sqm	97.69	97.69	
15	Fabricating, supplying & erecting M.S. angular Truss for all spans as approved design and drawing. The entire truss is anchored suitably by using 4 Nos. of M.S. anchor bolts at each support, with base plate and shoe plate.The work includes cutting, straightening, placing in position of M.S angle and wleding wherever necessary, and applying one coat of red oxide primer coat to all the members including cost of all materials, labour charges, & hire charges of machineries for cutting, welding, grinding & erection equipments, etc., complete as per specification. (Page No. 43 Item No. 7.30 of CSR 2018-19).	Kgs	2442.30	2442.30	
16	KSRB 8.4-1 : Providing and fixing Mangalore tile roofing using first class tiles with necessary special tiles for ridges and hips, teak wood reepers of size 50x25mm and pointed with cement mortar 1:4 over the existing rafters including cost of materials, labour, curing complete as per specifications. Specification No: KBS 8.17. (P.No. 49, I.No. 8.10 of PWD SR 2018-19)	Sqm	20.25	20.25	

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17	KSRB 15-18.2 : Providing and applying enamel metal paint two coats (excluding priming coat) over new steel or other metal surface brushing to give an even shade after cleaning oil, grease, dirt and other foreign matter, including cost of materials, labour, complate as per specifications.(P 120/ I.15.74 PW,P & IWTD SR - 2018-19)	Sqm	24.24	24.24	
18	Providing and laying reinforced cement concrete pipe NP3 for culverts including pointing ends, and fixing collars with cement mortar 1:2 including cost of all materials, labour, curing complete as per specifications. Specifications. No. KSRB 1000, 2300 MOST Specification No.1000 / 2300 - - 300mm. dia(P.No.254, I.No.34.6.1 of PW,P&IWTD S.R 2018-19)	MTR	10.60	10.60	
19	Providing and laying reinforced cement concrete pipe NP2 for culverts including pointing ends, and fixing collars with cement mortar 1:2 including cost of all materials, labour, curing complete as per specifications. Specifications. No. KSRB 1000, 2300 MOST Specification No.1000 / 2300 - - 1200mm dia	MTR	16.00	16.00	
20	Filter media stone aggregate 60mm &down size	Cum	5.42	5.42	
21	Crushed stone aggregate 13.2mm to 10mm	Cum	5.42	5.42	
22	Sand/ Artificial Sand/ Manufactured Sand	Cum	2.26	2.26	
23	Supplying and Fixing of Garbage bins rectangular with permanent structure series without arch 100litre capacity approved by Engineer in charge	Nos	5.00	5.00	
24	Executive bench made out of sadaralli grey stone with hand suport 3 line finishing with arch desiagn with 100cm slabs height 90% length 45cms (data approved rate)	Nos	43.00	43.00	

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25	***Supply of LED*** **Streetlight luminaire with pressure die cast *aluminium* housing body for optimal thermal dissipation. Lamp compartment comprising of anti glare clear diffuser with Injection moulded polycarbonate material, delivering superior light output. Rated life Burning Hrs 50000 hr @ Lumen Maintenance of 70%, maximum light intensity should be between 60 degrees to 70 degrees. CCT > 5500K, IP 66 optical and electrical compartment & impact resistance of complete luminaire > IK08. Power Factor >0.9 with mains, Surge Protection- Min 5KV along with Over voltage/ Overload, short**	Nos	22.00	22.00	
26	**Wiring for lighting/power circuit using one of FRLS PVC insulated 1100V grade, multistrand copper wire with low conductor resistance single core in open or concealed system of wiring with specified IS-694:confirming to latest amendments. 16 sqmm**	MTR	389.00	389.00	
27	**KSRRB 2.6 Providing and filling sand in trenches to required depth including watring ramming with all leads and lift complete as per specifications and directed by the engineer incharge at the site (P-7 I N-2.13 SR 2018-19)**	Cum	79.38	79.38	
28	**Supply & fixing of Arm & Pedal Bike : All products must tested and certified to meet EN16630 safety standards with GS test mark. The EN16630 certificates must be issued by a reputed notified International Certifying Body such as IPEMA, TUV, CPSC, or SGS only. The GS mark-EN 16630 certificates must be in the name of a supplier who has carried out a minimum of 100 public park projects in India with EN16630-GS certified products either by themselves or through their dealers or contractors. These EN16630 & GS Mark certificates must be clearly displayed on the notified certifying bodies websites as online verification**	Each	2.00	2.00	

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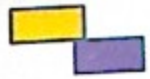
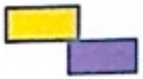
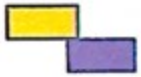
29	*Supply & fixing of* Elliptical Cross Trainer: All products must tested and certified to meet EN16630 safety standards with GS test mark. The EN16630 certificates must be issued by a reputed notified International Certifying Body such as IPEMA, TUV, CPSC, or SGS only. The GS mark-EN 16630 certificates must be in the name of a supplier who has carried out a minimum of 100 public park projects in India with EN16630-GS certified products either by themselves or through their dealers or contractors. These EN16630 & GS Mark certificates must be clearly displayed	Each	2.00	2.00	
30	Supply & fixing of Pull Down Challenger : All products must tested and certified to meet EN16630 safety standards with GS test mark. The EN16630 certificates must be issued by a reputed notified International Certifying Body such as IPEMA, TUV, CPSC, or SGS only. The GS mark-EN 16630 certificates must be in the name of a supplier who has carried out a minimum of 100 public park projects in India with EN16630-GS certified products either by themselves or through their dealers or contractors. These EN16630 & GS Mark certificates must be clearly displayed on the notified certifying bodies websites as online verification	Each	2.00	2.00	
31	Supply & fixing of Seated Chest Press : All products must tested and certified to meet EN16630 safety standards with GS test mark. The EN16630 certificates must be issued by a reputed notified International Certifying Body such as IPEMA, TUV, CPSC, or SGS only. The GS mark-EN 16630 certificates must be in the name of a supplier who has carried out a minimum of 100 public park projects in India with EN16630-GS certified products either by themselves or through their dealers or contractors. These EN16630 & GS Mark certificates must be clearly displayed	Each	2.00	2.00	

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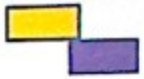
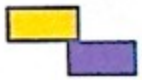
32	***Supply & fixing of*** **Self Weighted Rower : All products must *tested and certified to meet* EN16630 safety standards with GS *test* mark. The EN16630 certificates must be issued by a reputed notified International Certifying Body such as IPEMA, TUV, CPSC, or SGS only. The GS mark-EN 16630 certificates must be in the name of a supplier who has carried out a minimum of 100 public park projects in India with EN16630-GS certified products either by themselves or through their dealers or contractors. These EN16630 & GS Mark certificates must be clearly displayed on the notified certifying bodies websites as online verification**	Each	2.00	2.00	
33	**Supply & fixing of HD Double Health Walker : All products must tested and certified to meet EN16630 safety standards with GS test mark. The EN16630 certificates must be issued by a reputed notified International Certifying Body such as IPEMA, TUV, CPSC, or SGS only. The GS mark-EN 16630 certificates must be in the name of a supplier who has carried out in excess of at least 50 public park projects in India either by themselves or through their dealers or contractors. These EN16630 & GS Mark certificates must be clearly displayed on the notified**	Each	2.00	2.00	
34	**Supply & fixing of HD Waist Twister :All products must tested and certified to meet EN16630 safety standards with GS test mark. The EN16630 certificates must be issued by a reputed notified International Certifying Body such as IPEMA, TUV, CPSC, or SGS only. The GS mark-EN 16630 certificates must be in the name of a supplier who has carried out in excess of at least 50 public park projects in India either by themselves or through their dealers or contractors. These EN16630 & GS Mark certificates must be clearly displayed on the notified certifying bodies websites as online verification is mandatory. All products**	Each	2.00	2.00	

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35	Fixing and installation of a three person body twister station: Size -131 X 100 X 133CM, that consists of three swivel stands that rotates but with a built in safety limitor that meets international safety standards as the arms and shoulders of the user are held square in the overhead hold that is fixed to a monolithic large arc tube center pillar without convex sides & minimal deformation ergonomically curved. The Center pillar has an OD of 89 mm, the wall thickness is min 3 mm & has a 8mm thick, 40cm gusset	Each	2.00	2.00	
36	Supply & fixing of Tai Chi Spinners : All products must tested and certified to meet EN16630 safety standards with GS test mark. The EN16630 certificates must be issued by a reputed notified International Certifying Body such as IPEMA, TUV, CPSC, or SGS only. The GS mark-EN 16630 certificates must be in the name of a supplier who has carried out a minimum of 100 public park projects in India with EN16630-GS certified products either by themselves or through their dealers or contractors. These EN16630 & GS Mark certificates must be clearly displayed	Each	1.00	1.00	
37	Supply & fixing of HD Sit Up Station : All products must tested and certified to meet EN16630 safety standards with GS test mark. The EN16630 certificates must be issued by a reputed notified International Certifying Body such as IPEMA, TUV, CPSC, or SGS only. The GS mark-EN 16630 certificates must be in the name of a supplier who has carried out a minimum of 100 public park projects in India with EN16630-GS certified products either by themselves or through their dealers or contractors. These EN16630 & GS Mark certificates must be clearly displayed on the notified certifying bodies websites as online verification	Each	2.00	2.00	

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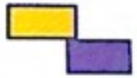
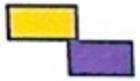
38	*Fixing and Installation of a Foot Cycle : Size - 97 X 45 X 133 CM, that has a central pin which connects the 2 heavy flywheels & which has 2 main bearings and in addition has a TEFLON RESISTANCE BEARING which locks the pin and creates resistance to the spin. The central pillar is a monolithic large arc tube without convex sides & minimal deformation which is ergonomically curved with an OD of 89 mm, the wall thickness is min 3 mm & has a 8mm thick, 40cm gusset support at standard height of 1.4m. All fasteners to be of 304 stainless, Torx Anti*	Each	2.00	2.00	
39	Supply and fixing of childern Multi Play Equipment with curved silde, tunnel and side panels : Upright structural posts of height 2.2m, 2.4m are to be HOT DIP Galvanized steel with a 114mm OD and 2.2mm (wall) thickness of the tubing.The poles are welded on to a base plate made from steel with 114mm inner diameter. Deck of size 1.45 x 1.45m,Impending stairs of size 0.80m x 0.60m and 1.05 m x 0.68 m are fabricated from 2mm perforated solid punched steel along with a curved Slide of size 1.7m x 1.8m x 1.2m Coupled with the tunnel are made of super thick plasticwhich shelle be animated and rotationally molded	Each	1.00	1.00	
40	Supply and fixing of childern Play Equipment Fiero A Swing : Shaped structural posts of height 2.31 m are to be schedule HOT DIP Galvanized steel with a 114mm OD and 2.2mm (wall) thickness of the tubing. Plastic Components such as swing seats [super thick plastic] shall be animated and shall be rotationally molded from antistatic, copolymer, virgin linear low density UV stabilized polyethylene, with color molded in and minimum	Each	1.00	1.00	
41	Supply and fixing of childern Play Equipment Two seater seesaw : The See Saw consists of 2 poles of Dia 114mm and thickness of 2.5mm which balances the horizontal rod at the center which is of size 3110 mm length and Dia 114 mm. It consists of 2 seats which is made of LLDPE virgin plastic of size 305mm X 213 mm	Each	2.00	2.00	

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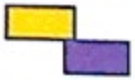
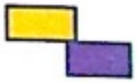
EIRL-1	Fabricating, supplying and erection of ...Mtrs long hot dip Galvanized Octagonal pole with BSEN 10025 grade S 355 JO steel plate for shaft, IS 2062 for base plate with door opening arrangements, including suitable boards, Bakelite sheet and MCBs as per IS specifications suitable to withstand the wind speed of 47 m/sec for .....Mtrs pole in single section and single joint welded as per IS 9595/IS10178AWS having dimensions bottom .....mm, top....mm with 3mm thick, suitable base plate and 4Nos of ..... long J bolts along with template and the pole	Each	22.00	22.00	
EIRL-2	Supplying and fixing L.T. cast Iron pot heads suitable for 1.1 KV class UG cable filled with necessary bitumen/insulating compound complete with terminals, clamps, bolts, nuts and washers etc. (P.No.42 It.No.6.10.2)16Sqmm	Each	1.00	1.00	
EIRL-3	Supplying, fixing, wiring, earth electrode for grounding conduits, I.C. cutouts and other equipment's on the meter board using 40mm dia 2.90mm thick GI pipe 2.5 mtr long buried in a pit ... The pit should be filled with equal proportion of salt and charcoal 150mm all-round the pipe to complete depth. The connection from the pipe to the conduit etc., is to be established through GI wire of size as per ISI specification 7.3.3. of IS 732 using 12mm dia bolts, nuts, washers and check nuts etc., the pipe	Each	1.00	1.00	
EIRL-4	Supplying & fixing of Porcelain fuse channel with cut out on existing wooden/panel using necessary nuts, bolts and washers.32 Amps (P.No.25 It.No.5.7.2)	Each	1.00	1.00	
EIRL-5	Supplying and fixing miniature circuit breakers on existing MCB distribution boards using necessary fixing materials and 'C' Type curve, indicator ON/OFF, energy cross-3 with Short circuit breaking capacity of 10K and complete wiring as required confirming to IEC 60898. (P.No.27 It.No.5.17.7)	Each	3.00	3.00	

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EIRL - 6	Fabricating supplying and mounting MS box made out 16SWG suitable for floor / wall mounting, fully weather proof with provision for better heat dissipation, provided with hinged front cover, equipped with tamper proof locking arrangements, with suitable size clamps with necessary cable entry pipe with gland and box should be finished with 7tanks treatment with powder coated paint and finally finished with approved colour etc., complete. (P.No.31 It.No.5.42.2)	Sq cm	21600.00	21600.00	
EIRL - 7	Supply and Installation / Fixing / Provision of Outdoor type Thermoplastic Modular Panel enclosure with transparent Polycarbonate Lid, shock proof, IP65 (Weather Proof), rust proof, dust proof, water proof, corrosion proof having internally Embedded gasket on both lid and flap suitable to fix Single Phase / Three Phase Energy Meter in suitable base plate and having a provision for Fuse / MCB cutout with suitable transparent hinged flap opening for operating MCB along with	Each	1.00	1.00	

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